



37589

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Application of : **ZLOTNICK**

:
Serial No.: 09/616,977 : Group Art Unit: 2178
:
Filed : July 14, 2000 : Examiner: Kyle R. Stork
:
For : DIRECTORY SERVICE FOR FORM PROCESSING

Honorable Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

DECLARATION UNDER 37 CFR 1.131

Sir:

I, the undersigned, Aviad Zlotnick, hereby declare
as follows:

1) I am the Applicant in the patent application
identified above, and am the sole inventor of the subject
matter described and claimed in claims 1-37 therein.

2) Prior to March 24, 2000, I conceived my invention,
as described and claimed in the subject application, in
Israel, a WTO country. Conception of the invention is
evidenced by an IBM Disclosure that I wrote, entitled
"Internet Directory Service For Forms Processing" (serial
no. 94850-1), which is attached hereto as Appendix A.

3) The dates deleted from Appendix A are prior to

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March 24, 2000.

4) The following table shows the correspondence between the elements of claim 12 (as amended) in the present patent application and statements in the Disclosure attached as Appendix A:

Claim 12	Disclosure
A method for processing forms, each form including a field that is filled in with information in a predefined domain	Title: "Internet Directory Service For Forms Processing." Examples of domains include medical practice offices (page 1, second paragraph) and insurance (page 2, first unnumbered paragraph).
defining, in advance of reading out contents of the forms for processing, a directory of data relating to the predefined domain by selecting data specific to the domain from one or more general databases	"... an organization invests efforts in gathering directory information..." (page 1, third paragraph). "One could start with an established, purchased, database, and employ agents to find updates" (page 1, last paragraph). "It may be necessary for DS to go out and gather information in order to build all the directories needed by SI..." (page 2 first unnumbered paragraph).

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Claim 12	Disclosure
receiving from a client via a computer network the information that is filled into the field on the forms by a plurality of users in communication with the client	"In particular, one could offer a service that accepts field images and context, and returns the field content in coded format (ASCII), or one could define an interface in coded format and return information in the same format" (page 2, first paragraph). "According to this contract, SI's system will send DS's web site field images, together with field classification" (page 2, first unnumbered paragraph).
checking whether the information is correct by looking up the information in the directory	"... extensive use of directory information can dramatically reduce the number of keystrokes needed for data entry from paper" (page 1, first paragraph). "... DS will respond by supplying verified OCR results" (page 2, first unnumbered paragraph). The verification is based on the directory information that the organization has gathered (page 1, first three paragraphs).

This table demonstrates that I conceived the entire

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invention, as recited in claim 12, prior to March 24, 2000. Based on the similarity of subject matter between claims 12, 30 and 37, it can similarly be demonstrated that I conceived the entire invention recited in claims 30 and 37.

5) On March 14, 2000, I met with Dr. Daniel Kligler, of Sanford T. Colb & Co., who was retained by IBM as outside counsel for the purpose of preparing the present patent application. I was informed that Dr. Kligler had a substantial backlog of new applications that he was preparing for IBM, and that there would consequently be a delay of approximately two months in drafting this application.

6) On May 30, 2000, Dr. Kligler sent me a first draft of the patent application. I responded immediately with comments and corrections to the draft.

7) On June 1, 2000, Dr. Kligler sent me a revised draft of the patent application.

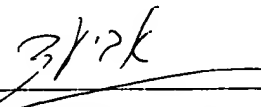
8) I immediately approved the revised draft for filing. It was then sent to an IBM in-house attorney for review. The attorney gave final approval to file the application on June 20, 2000. After I executed the filing documents, the application was then sent to the United States, where it was filed on July 14, 2000.

I hereby declare that all statements made herein of our my knowledge are true and that all statements made on information and conjecture are thought to be true; and

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further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application of any patent issued thereon.



Aviad Zlotnick, Citizen of Israel
Mizpe Netofa
D.N. Galil Takhton

Date:

Nov. 30, '05

IBM CONFIDENTIAL

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Internet Directory Service For Forms Processing

Background

In a recent test at a customer's site we showed that extensive use of directory information can dramatically reduce the number of keystrokes needed for data entry from paper. The reason for this is that many fields on typical forms relate to addresses, telephone numbers, and various identification codes. Using sophisticated directory lookup (fuzzy search) engines, it is possible to retrieve the content of all these fields even with OCR success on a small subset of the field characters.

Some directories, such as telephone directories, are readily available, at least in a version that is only almost up to date. Other directories are much harder to get. For instance, we wanted a directory of all the medical practice offices in the USA, and it was not available. In many forms processing applications such directories may change the economics of a solution.

This disclosure discusses a business model in which an organization invests efforts in gathering directory information, and makes profits by selling services related to this information via the internet. This model fits in well with IBM's recent policy of emphasizing technology and services.

It should be noted that the some of these same services are useful even when data capture is done directly through internet forms. One still could benefit from eliminating typos, and shortening the data gathering sessions.

Patent protection is sought for the business model, content free framework, and software for this business.

The Business Model

The business model has four components:

1. Information gathering: each organization can use its own ideas for information gathering. One could start with an established, purchased, database, and employ agents to find updates. Or one could build a database using fully internal resources. In most cases it

- would be desirable to maintain to database up to date, using whatever means possible.
2. Interface: the interface defines what information the customers provide, what they get back, and how. In particular, one could offer a service that accepts field images and context, and returns the field content in coded format (ASCII), or one could define an interface in coded format and return information in the same format. I think there is use for both services.
 3. Directory lookup: the search engines used may make a big difference in the quality of service, whether it is the OCR engine or the fuzzy search algorithm. A complete service may even include manual verification or manual key in.
 4. Payment method: payment for the services can be done by transaction - pay per field, or by project - a fixed price for the duration of the project. Here too, there seems to be use for both types of payment.

As an example, let us think of a directory service provider DS, and a software integrator SI. SI wants to automate data collection for an insurance company, but does not have expertise in OCR. Instead of developing OCR technologies from scratch, or purchasing off the shelf packages and starting to learn their particulars, SI goes to DS and signs a service contract. According to this contract SI's system will send DS's web site field images, together with field classification, and DS will respond by supplying verified OCR results. It may be necessary for DS to go out and gather information in order to build all the directories needed by SI, but with some luck, after doing business with several software integrators, DS will have most of the databases ready.

As mentioned above, DS may decide to code all of SI's transactions manually. As long as the response time, throughput and price are acceptable for SI, the business will run smoothly.

State of the Art

No such services exist in the document processing market.

In the internet domain, search sites like Yahoo and Alta Vista provide the same kind of service (information compilation and sophisticated search), but on a word basis instead of on a character basis. The internet search model is also different in that one cannot negotiate for special databases, and the payment model is different.

Advantages

Every organization does what it knows best. System integration people do not have to get into image or text processing, and computer science experts do not have to deal with user interfaces and hardware. The interface overhead should not be forbidding in this kind of computing intensive service.

In particular, this type of service makes it possible to build document processing systems in places where the volumes are too low to justify the investment in a standard system.